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ERWIN H. BARBOUR, *Director*

SAND FULGURITES FROM NEBRASKA

Their structure and formative factors

BY ABRAM E. ANDERSON

INTRODUCTION

So much has been written during the past century on the origin, structure and occurrence of fulgurites, or lightning tubes, found in many parts of the world that it would seem as though little remains to be added to the literature on the subject; but the discovery of a considerable number of unusually large and complete specimens in Holt and Stanton Counties, Nebraska, which exhibit remarkable definition of the particular features that have occasioned so much controversy regarding their formative processes, has added an important type to the representatives of this phenomenon and afforded clearer interpretation of the origin of certain disputed structures.

These fulgurites, like others of their class, are only rough, corrugated tubes of dirty-grey, spongy glass, formed of melted sand grains, which, created in a fraction of a second by a temperature of at least 1200° C., cooled too rapidly for recrystallization, and simply consolidated in their present shape as a spongy mass of glass. But they mark the trail of an electric spark, or lightning stroke, that shot its way for 15 feet or more, (40 feet in one case), through compact sand as readily as it did through the air whence it came.

With no inherent beauty of either form or color, they appear rather unattractive objects of mere curiosity to the casual observer, but a study of the stupendous and complex forces involved in their composition stimulates an increasing interest in the causes of their construction.